

```
--CREATE TABLE Employees (
--    EmployeeID INT PRIMARY KEY ,
--    FirstName VARCHAR(50),
--    LastName VARCHAR(50),
--    Gender VARCHAR(10),
--    StartDate DATE,
--    Years INT,
--    Department VARCHAR(50),
--    Country VARCHAR(50),
--    Center VARCHAR(50),
--    MonthlySalary DECIMAL(10, 2),
--    AnnualSalary DECIMAL(12, 2),
--    JobRate INT,
--    SickLeaves INT,
--    UnpaidLeaves INT,
--    OvertimeHours INT
--);
```

-----1. Average Employee Tenure-----

```
SELECT
    AVG(Years) AS AverageTenure
FROM
    Employees;
```

Results		Messages	
	Average Tenure		
1	5		

-----2. Department-wise Performance Ratings-----

```
SELECT
    Department,
    AVG(JobRate) AS AveragePerformanceRating
FROM
    Employees
GROUP BY
    Department
ORDER BY
    AveragePerformanceRating DESC;
```

	Department	AveragePerformanceRating
1	Human Resources	4.357142
2	Major Mfg Projects	4.250000
3	Environmental Health/Safety	4.222222
4	Manufacturing Admin	4.100000
5	Creative	3.789473
6	Professional Training Group	3.785714
7	Quality Control	3.764044
8	Account Management	3.690476
9	Facilities/Engineering	3.620689
10	IT	3.600000
11	Quality Assurance	3.574626
12	Manufacturing	3.535714
13	Product Development	3.485294
14	Marketing	3.427083
15	Research Center	3.300000
16	Sales	3.275000
17	Environmental Compliance	3.076923

-----3. Employee Attrition Rate by Department-----

```

SELECT
    Department,
    COUNT(EmployeeID) AS TotalEmployees,
    SUM(CASE WHEN Years < 5 THEN 1 ELSE 0 END) AS AttritionCount,
    (SUM(CASE WHEN Years < 5 THEN 1 ELSE 0 END) / COUNT(EmployeeID)) * 100 AS
AttritionRate
FROM
    Employees
GROUP BY
    Department
ORDER BY
    AttritionRate DESC;

```

	Department	TotalEmployees	AttritionCount	AttritionRate
1	Account Management	84	19	0
2	Creative	19	2	0
3	Environmental Compliance	13	5	0
4	Environmental Health/Safety	9	1	0
5	Facilities/Engineering	58	14	0
6	Green Building	8	2	0
7	Human Resources	7	1	0
8	IT	40	10	0
9	Major Mfg Projects	8	2	0
10	Manufacturing	140	29	0
11	Manufacturing Admin	5	1	0
12	Marketing	48	10	0
13	Product Development	34	6	0
14	Professional Training Group	14	2	0
15	Quality Assurance	67	21	0
16	Quality Control	89	22	0
17	Research Center	5	0	0
18	Research/Development	5	2	0

#### -----4. Employee Sick Leave Analysis-----

```

SELECT
    Department,
    AVG(SickLeaves) AS AvgSickLeaves
FROM
    Employees
GROUP BY
    Department
ORDER BY
    AvgSickLeaves DESC;

```

	Department	AvgSickLeaves
1	Research Center	4
2	Manufacturing Admin	3
3	Professional Training Group	2
4	Environmental Health/Safety	2
5	Facilities/Engineering	2
6	Human Resources	2
7	IT	1
8	Major Mfg Projects	1
9	Manufacturing	1
10	Account Management	1
11	Creative	1
12	Environmental Compliance	1
13	Quality Assurance	1
14	Quality Control	1
15	Marketing	1
16	Product Development	1
17	Research/Development	1
18	Sales	1

-----5. Overtime Hours Analysis-----

```

SELECT
    FirstName,
    LastName,
    Department,
    OvertimeHours,
    JobRate
FROM
    Employees
ORDER BY
    OvertimeHours DESC

```

	FirstName	LastName	Department	OvertimeHours	JobRate
1	Omar	Hishan	Quality Control	198	1.00
2	Ailya	Sharaf	Major Mfg Projects	192	2.00
3	Ghadir	Hmshw	Quality Control	183	3.00
4	Muhamad	Alirfaei	Account Management	153	4.50
5	Farahad	Husayn	Quality Control	153	3.00
6	Muhamad	Eurul	Quality Assurance	148	1.00
7	Ahmad	Bikri	Manufacturing	121	5.00
8	Iin	Alhalaliu	Sales	116	3.00
9	Riad	Sahalul	Training	111	3.00
10	Bilal	Jalal	Manufacturing Admin	109	3.00
11	Susin	Amilat	Green Building	105	4.50
12	Eala	Alhaj	Quality Assurance	100	5.00
13	Diea	Filyun	Manufacturing	100	3.00
14	Muhamad	Ayman	Manufacturing	99	4.50
15	Samir	Alsafdi	Account Management	98	5.00
16	Kholoud	Khayti	Manufacturing	98	3.00
17	Salim	Aleabd	Quality Control	97	5.00
18	Lina	Aljabaan	Quality Control	97	5.00

#### -----6. Performance and Salary Correlation-----

```

SELECT
    AVG(JobRate) AS AvgPerformance,
    AVG(MonthlySalary) AS AvgMonthlySalary,
    AVG(AnnualSalary) AS AvgAnnualSalary
FROM
    Employees;

```

	AvgPerformance	AvgMonthlySalary	AvgAnnualSalary
1	3.586357	2068.201741	24818.420899

#### -----7. Employees with Unpaid Leaves Above Average-----

```

WITH AvgUnpaidLeaves AS (
    SELECT AVG(UnpaidLeaves) AS avg_unpaid FROM Employees
)
SELECT
    FirstName,
    LastName,
    UnpaidLeaves
FROM
    Employees, AvgUnpaidLeaves
WHERE
    UnpaidLeaves > avg_unpaid;

```

	FirstName	LastName	UnpaidLeaves
1	Omar	Hishan	5
2	Ailya	Sharaf	3
3	Ahmad	Bikri	5
4	Bayan	Qdw	1
5	Lina	Aljabaan	1
6	Ghalib	Zakianiin	5
7	Rima	AlAsfar	3
8	Ahmad	Laylana	6
9	Ghada	Aleasimii	4
10	Shadi	Salayk	6
11	Muhamad	Asamy	4
12	Muhamad	Jawish	3
13	Muwmin	Almudhin	4
14	Ahmad	Zayd	3
15	Shahad	Shanan	2
16	Salah	Ramadan	1
17	Sami	Alkhayrat	1

-----8. Department with the Most Overtime Hours-----

```

SELECT
    Department,
    SUM(OvertimeHours) AS TotalOvertime
FROM
    Employees
GROUP BY
    Department
ORDER BY
    TotalOvertime DESC

```

	Department	TotalOvertime
1	Quality Control	1700
2	Manufacturing	1699
3	Account Management	1264
4	Quality Assurance	771
5	Facilities/Engineering	605
6	IT	523
7	Sales	466
8	Training	386
9	Marketing	332
10	Creative	332
11	Major Mfg Projects	309
12	Product Development	219
13	Professional Training Group	219
14	Green Building	147
15	Environmental Compliance	145
16	Manufacturing Admin	130
17	Human Resources	119

-----9. Highest Paid Employees by Department-----

```

SELECT
    E.Department,
    E.FirstName,
    E.LastName,
    E.MonthlySalary
FROM
    Employees E
JOIN (
    SELECT
        Department,
        MAX(MonthlySalary) AS MaxSalary
    FROM
        Employees
    GROUP BY
        Department
) AS MaxSalaries
ON E.Department = MaxSalaries.Department
AND E.MonthlySalary = MaxSalaries.MaxSalary
ORDER BY
    E.Department;

```

	Department	FirstName	LastName	MonthlySalary
1	Account Management	Ashraf	Aleid	3450.00
2	Creative	Khawla	Dawi	3388.00
3	Environmental Compliance	Ahmad	Dabana	3354.00
4	Environmental Health/Safety	Ayat	Byd	3120.00
5	Facilities/Engineering	Ilian	Dbs	3404.00
6	Green Building	Sali	Musuh	3275.00
7	Human Resources	Majdulyn	Alhakim	3093.00
8	IT	Labanaa	Qaziya	3258.00
9	Major Mfg Projects	Dalia	Hamdan	3446.00
10	Manufacturing	Muhamad	Jhad	3411.00
11	Manufacturing Admin	Bilal	Alqalish	2361.00
12	Marketing	Ayman	Muhamad	3410.00
13	Product Development	Kinda	Zaki	3337.00
14	Professional Training Group	Tariq	Shams	3282.00
15	Quality Assurance	Eala	Darkzifli	3420.00
16	Quality Control	Muhamad	Almisri	3443.00
17	Research Center	Salah Aldiyn	Altibae	3068.00

----10. Performance Review Distribution Across Departments----

```

SELECT
    Department,
    JobRate,
    COUNT(*) AS CountOfEmployees
FROM
    Employees
GROUP BY
    Department, JobRate
ORDER BY
    Department, JobRate;

```



	Department	JobRate	CountOfEmployees
1	Account Management	1.00	5
2	Account Management	2.00	11
3	Account Management	3.00	24
4	Account Management	4.50	18
5	Account Management	5.00	26
6	Creative	2.00	1
7	Creative	3.00	9
8	Creative	4.50	4
9	Creative	5.00	5
10	Environmental Compliance	1.00	3
11	Environmental Compliance	3.00	6
12	Environmental Compliance	4.50	2
13	Environmental Compliance	5.00	2
14	Environmental Health/Safety	3.00	3
15	Environmental Health/Safety	4.50	2
16	Environmental Health/Safety	5.00	4
17	Facilities/Engineering	1.00	6
18	Facilities/Engineering	2.00	5

-----Fast Query Using a JOIN with Aggregates (Optimized for Performance)-----

```

SELECT
    E.Department,
    E.FirstName,
    E.LastName,
    E.MonthlySalary
FROM
    Employees E
JOIN (
    SELECT
        Department,
        MAX(MonthlySalary) AS MaxSalary
    FROM
        Employees
    GROUP BY
        Department
) AS MaxSalaries
ON E.Department = MaxSalaries.Department
AND E.MonthlySalary = MaxSalaries.MaxSalary
ORDER BY
    E.Department;

```

	Department	FirstName	LastName	MonthlySalary
1	Account Management	Ashraf	Aleid	3450.00
2	Creative	Khawla	Dawi	3388.00
3	Environmental Compliance	Ahmad	Dabana	3354.00
4	Environmental Health/Safety	Ayat	Byd	3120.00
5	Facilities/Engineering	lilian	Dbz	3404.00
6	Green Building	Sali	Musuh	3275.00
7	Human Resources	Majdulyn	Alhakim	3093.00
8	IT	Labanaa	Qaziyha	3258.00
9	Major Mfg Projects	Dalia	Hamdan	3446.00
10	Manufacturing	Muhamad	Jhad	3411.00
11	Manufacturing Admin	Bilal	Alqalish	2361.00
12	Marketing	Ayman	Muhamad	3410.00
13	Product Development	Kinda	Zaki	3337.00
14	Professional Training Group	Tariq	Shams	3282.00
15	Quality Assurance	Eala	Darkzifli	3420.00
16	Quality Control	Muhamad	Almisri	3443.00
17	Research Center	Salah Aldiyn	Altibae	3068.00
18	Research/Development	Ranim	Earabi	3130.00

-----Query Using HAVING (Takes More Time)-----

```

SELECT
    Department,
    FirstName,
    LastName,
    MonthlySalary
FROM
    Employees E1
GROUP BY
    Department,
    FirstName,
    LastName,
    MonthlySalary
HAVING
    MonthlySalary = (
        SELECT
            MAX(MonthlySalary)
        FROM
            Employees E2
        WHERE
            E2.Department = E1.Department
    )
ORDER BY
    Department;

```

	Department	FirstName	LastName	MonthlySalary
1	Account Management	Ashraf	Aleid	3450.00
2	Creative	Khawla	Dawi	3388.00
3	Environmental Compliance	Ahmad	Dabana	3354.00
4	Environmental Health/Safety	Ayat	Byd	3120.00
5	Facilities/Engineering	Ilian	Dbs	3404.00
6	Green Building	Sali	Musuh	3275.00
7	Human Resources	Majdulyn	Alhakim	3093.00
8	IT	Labanaa	Qazyiha	3258.00
9	Major Mfg Projects	Dalia	Hamdan	3446.00
10	Manufacturing	Muhamad	Jhad	3411.00
11	Manufacturing Admin	Bilal	Alqalish	2361.00
12	Marketing	Ayman	Muhamad	3410.00
13	Product Development	Kinda	Zaki	3337.00
14	Professional Training Group	Tariq	Shams	3282.00
15	Quality Assurance	Eala	Darkzifli	3420.00
16	Quality Control	Muhamad	Almisri	3443.00
17	Research Center	Salah Aldiyn	Altibae	3068.00
18	Research/Development	Ranim	Earabi	3130.00